



## Adapting ODC for Empirical Analysis of Pre-Launch Anomalies

Robyn Lutz, Carmen Mikulski (JPL)

### FY03 accomplishments:

- Applied on Mars Exploration Rover, Deep Impact
- Awarded NASA SAS'03 "Best Research Organization" (with D. Gilliam) for our work
- Best experience paper, Int'l Conf on Requirements Eng '03; invited for IEEE Software special issue
- Key finding: defect reports give "crystal ball" into operations

–If software behavior surprised testers, it may surprise operators



\*ODC = Orthogonal Defect Classification technique [IBM]

Recommendations for MER and future projects:

- Earlier assignment of criticality ratings
- If software's behavior confused testers, enhance documentation
- Earlier testing of fault-protection

- Develop and package recommendations for MER